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Opinion

Leadership and management for infection prevention and control. What do we have and what do we need?

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Introduction

Leadership is widely considered to be vital for infection prevention and control (IPC) ¹. Its purpose is to maintain progress reducing risks of healthcare-associated infections especially those caused by antimicrobial-resistant organisms, and to achieve continuous quality improvement ². But given its importance there is little rigorous research on effective leadership for IPC. While there is indirect evidence that IPC experts and clinicians working at the frontline of patient care can assume leadership, almost nothing has been written about IPC leadership at senior level. This situation is all the more surprising given international interest in the senior managerial model of IPC adopted throughout the National Health Service (NHS) in England and claims that 'top down' intervention for IPC is effective ^{1, 2}. The terms 'management' and 'leadership' are often used interchangeably in relation to the organisation and delivery of health care. Greater conceptual clarity could prompt consideration of what is needed for IPC.

Leadership and management

The literature is replete with definitions of leadership ³. Some are highly inspirational, reflecting the charismatic qualities of great leaders down the ages:

'Leadership is the art of mobilizing others to want to struggle for shared aspirations.'

⁴

Contemporary definitions tend to be more prosaic:

'Leadership is the process of influencing the activities of an organised group in its efforts toward goal setting and goal achievement.'

⁵

'Leadership is the art of leading others to deliberately create a result that would not have happened otherwise.' (Anonymous)

The many definitions of leadership suggest that it is about directing a group or team but there is no suggestion that leadership roles can or should be assumed only by those at the organisational helm. Rather leadership and the 'followership' that it implies can be found at all layers throughout organisations and can be delivered by different people within the same establishment.

Just as there are many definitions of leadership, theories of successful leadership also abound. Early writers believed that leadership depended on individual qualities

and that leaders were born, not created⁶. Different types of leadership were later recognised³ and judging by the number of self-help manuals and courses now available to those in the health professions and commercial sector, there is a widely held view that leadership qualities can be acquired or at least enhanced. While the literature on leadership is complex and contested, what is quite clear, however, is that leadership is not synonymous with management, for which quite a different definition is offered:

'Management is the process of dealing with or controlling things or people.'⁷

Management, it seems, is about one individual being formally in charge of others and directing their work through organisational structures that are hierarchical. This is in contrast to leadership which can be achieved through other strategies of influence that can be either formal or informal and depend on the ability of the individual to inspire, demonstrate charisma and provide a strong role model.

Recently opinion leaders^{8,9} have suggested that over-reliance on hierarchical management stifles innovation by failing to capitalise on the expertise of health workers at the forefront of patient care by ignoring the important contribution that arises through application of their local knowledge and impeding the ability of organisations and employees to work flexibly in response to change. These observations are especially pertinent to IPC which is about much more than the compliance with policies and procedures that hierarchical management demands. The need to respond rapidly and flexibly to sudden change is important in all health care services but is at its greatest in IPC where crises (e.g. seasonal norovirus and influenza outbreaks) and sudden unanticipated challenges (e.g. threats of 'bird 'flu, ebola) occur frequently and can have far-reaching consequences for service delivery and patient care.

Managerial leadership

Although management and leadership are distinct concepts, managers are frequently required to demonstrate leadership qualities, including for IPC. It has been argued that those assuming organisational leadership for IPC must be of sufficient seniority to exert authority¹⁰: they need to be members of committees where resources are allocated to ensure that IPC is prioritised. Managerial support has been identified as crucial in the success of IPC campaigns^{11,12}. In particular, it is considered important in the English National Health Service (NHS) where legislation¹³ has required a director of infection prevention and control (DIPC) to spearhead IPC since 2004.

DIPCs report directly to the Trust Board to ensure that IPC receives high priority. Their role is to lead IPC at all levels in the organisation, communicate consistent messages and ensure that IPC practice is continuously improved ¹. This hierarchical model is part of the 'top down' arrangements for IPC that have been put in place in the UK over the last fifteen years and which are apparent in other countries ¹⁴. On the one hand the effectiveness of government-initiated IPC campaigns is frequently used as evidence of the effectiveness of the 'top down' approach with its inevitable managerial involvement. The most widely quoted examples are the 56% reduction in methicillin-resistant *Staphylococcus aureus* and decline in *Clostridium difficile* in the UK 2004-2008 ¹. On the other hand, there is also evidence that this approach to IPC is not always well received. Interviews with 149 health workers in different NHS trusts revealed antipathy towards central control and resentment of performance management to reduce the incidence of specific infections that have declined while placing less emphasis on other infections that are increasing (e.g. Gram negative bloodstream infections) ¹⁵. Managerial imposition of IPC strategies with penalties for lack of compliance are not restricted to the UK ^{16, 17} and staff are suspicious of technological devices introduced by managers to monitor specific IPC activities such as hand hygiene ¹⁸. These findings concur with the recent views expressed about excessive reliance on hierarchical management in health care more generally ⁹.

Middle management and infection prevention and control

Most managers employed in the health services occupy 'hybrid' roles combining managerial with clinical responsibilities (e.g. ward managers/sisters, medical staff leading a team of junior doctors) and it is argued that they could and should assume leadership roles because of their expertise in relation to their specific service or patient population ⁹. Only one study ¹⁹ appears to have investigated the contribution of leadership to IPC success at middle manager level and its findings suggest that reliance on 'top down' IPC leadership may not be the best approach. This work formed part of a much larger research programme exploring reasons underlying the effectiveness of IPC programmes in 700 hospitals in the US. Qualitative data were collected during telephone interviews and site visits in a sub-sample of fourteen hospitals targeted because they demonstrated different levels of IPC performance. Distinguishing features of successful IPC leaders included: good communication skills and powers of persuasion, ability to focus on overcoming barriers to IPC and to deal directly with staff and/or processes that hindered implementation of IPC policies and guidelines. Leadership from IPC staff emerged as more influential than from general managers. Uptake of IPC policies and procedures appeared strongest when IPC leadership came from a range of

individuals at different levels throughout the organisation rather than from a figurehead with no specific IPC expertise.

Leadership per se has not been the topic of other studies but there is indirect evidence that specialist IPC staff can lead quality improvement programmes effectively. For example an IPC team in the UK ²⁰ introduced a quality improvement initiative based on metrics (e.g. hand hygiene compliance, cleanliness of the patient environment, link nurses' rates of attendance at updates and educational events). Ward staff assumed responsibility for their own IPC standards, for example undertaking local audits. The programme was initially set up in the intensive care unit and later extended to all wards. A similar but more sophisticated scheme has since been reported from another NHS hospital. Here a 'traffic lights' style accreditation system was introduced to indicate those areas performing to satisfactory standards (green), those requiring improvement which required re-consideration before accreditation was possible (amber) and wards on 'red alert' requiring major support to achieve the level of performance required ²¹. Over a two year period the system was adopted throughout the NHS trust.

Frontline leadership

Link practitioner schemes are the most frequently used approaches to formal IPC leadership at the frontline. In this model, staff drawn from the regular workforce, often nurses are invited to take local responsibility for IPC, liaising between wards and the IPC team. Link practitioners are valued by clinicians ²² and have been used to improve specific IPC practices ²³. Other formalised approaches to frontline IPC leadership have involved role models ²⁴, IPC champions ²⁵ and positive deviators. Positive deviators are able to find solutions to local problems despite having access to the same resources and encountering the same challenges as other staff ²⁶. They have been used to improve hand hygiene in a hospital in Brazil are considered to hold promise as a way of increasing local IPC implementation ²⁷. Champions are members of the usual workforce who operate as local ambassadors for IPC. They lead by setting good examples, powers of persuasion, enthusiasm and ability to innovate. An interview study in six US hospitals ²⁵ demonstrated that champions could introduce new equipment but were unable to alter health workers' IPC behaviour, even when change was inexpensive and appeared straightforward. They were most successful in organisations where collaborative working with the IPC team was evident, indicating the importance of support when frontline workers assume IPC leadership roles.

Popular accounts sometimes give examples of apparently ordinary people emerging as leaders under particular circumstances. There are indications that this occurs in the world of IPC. In five Canadian hospitals where clinicians were encouraged to assume accountability for their own standards of IPC, some emerged as informal leaders, becoming involved in local trouble-shooting and problem-solving ²⁹. Successfully promoted individual accountability depended on frontline staff receiving and responding to local metrics, remaining constantly mindful of IPC and helping to stimulate change. Similarly the findings of an ethnographic study in the UK exploring reasons underpinning the success or otherwise of an intervention to reduce bloodstream infections from central venous line catheters suggest better uptake in units where there was encouragement from an informal 'local entrepreneur' who emerged from the workforce and assumed responsibility for engaging clinicians ²⁹. Strong medical and nursing role models and support from credible senior staff committed to the campaign also appeared influential. As in the study reported by Saint et al ¹⁹, clinicians appeared more amenable to IPC messages from credible experts and local leaders than from general managers.

Discussion

The evidence presented above demonstrates that IPC leadership can be provided by staff at the frontline of patient care ^{22, 24, 27} and at other levels in the organisation, especially if they have specific IPC expertise ¹⁹ and that such leaders can be formally appointed ^{22, 27} or emerge spontaneously ^{28, 29}. These accounts corroborate what has been written about leadership more generally ^{8, 9}: to be creative and respond to the sudden, unexpected crises that characterise IPC, frontline staff need support and the knowledge that their expertise is valued rather than smothered by excessive micro-management. Some central management of IPC and target-setting will always be present in health care, including IPC, but there is considerable scope for promoting health workers' individual accountability for their own standards performance and incorporating their expertise into local decision-making to enable them to contribute the expert knowledge of their own service/patient population. In the NHS in England this support could be offered by the DIPC but there does not appear to be any research to explore the impact they have had in the twelve years since they were first appointed. Recent work indicates that very senior health service managers including those responsible for IPC, find their work increasingly challenging, lack support, feel vulnerable and sometimes report bullying especially when things go wrong ^{9, 30}. Research evaluating the DIPC role could explore the personal qualities and technical expertise required to lead IPC and the preparation and support necessary for them to perform optimally. Pre-2000 the UK lagged behind other

countries in terms of IPC but subsequent changes have now placed it at the forefront. Today other countries turn to the UK to improve their own IPC services so evaluation of IPC leadership, which is assumed to have contributed to this success, would be of international interest.

Author contributions

DJG and RG conceived the article. All authors contributed to manuscript preparation.

Conflict of interest

No conflicts of interest are declared

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